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**Essential Oil from *Ruta montana* L. (Rutaceae)
Chemical Composition, Insecticidal and Larvicidal Activities**

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Abstract: Chromatographic analysis of the essential oil extracted from the aerial part of the Algerian (Tipaza, the East of Algiers, North Central Algeria) *Ruta montana* L. (Rutaceae) revealed the presence of higher ketones (C₆ - C₁₃), in about 95 %. This essential oil proved to be endowed with a two-fold potency: insecticidal and larvicidal activities against German cockroach (anti-crawling test)/*Culex pipiens* mosquitoes (anti-flying test) and, mosquitoes larvae (larvicidal), respectively. The extent of German cockroaches that were flipped over on their backs upon pulverization of 1 mL of 1.6 % aqueous solution of the extract, attained 100 %, 10 minutes after spraying. For the same dose, the mortality percentages were 97.5 % for German cockroaches after 24 h, and 99 % for *Culex pipiens* mosquitoes after 30 minutes. The larvicidal activity was 100 % after 1h for a dosage of as low as 9.6×10^{-3} %.

Keywords: German cockroach, *Culex pipiens*, *Ruta montana*

Introduction: Cockroaches and mosquitoes are considered as aggressive insects that are vectors of diseases and epidemics such as allergies, respiratory disorders, and malaria ¹⁻⁷. It is claimed that cockroach dust may trigger asthma attacks. Cockroach infestations may lead to human physiological stress and uncomfortable living as they awfully disturb the aesthetics of house indoors. Needless is to recall the many attempts and means to fight against these unwanted and despicable species. The suppression of these pests relied, among others, on the direct use of chemical pesticides; DDT is by far the best example ⁸. Yet, this chemical treatment approach has become increasingly less popular due to the tolerance and resistance developed by these pests. Besides, synthetic chemicals employed for this purpose can deleteriously damage the environment. Nowadays, controlling the insects' populations

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